

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An image processor that corrects input image data having a predetermined grayscale range, comprising:

a coefficient holding device to hold correction coefficients of a correction curve that correspond to the entire grayscale range or a portion of the grayscale range and include one or more correction points and a combination portion that is formed of a combination of a plurality of specific curve pattern portions, the one or more correction points being determined previously and independently of the input image data, and the coefficient holding device holding only the correction coefficients corresponding to one of the specific curve pattern portions in the combination-portion; portion, the held correction coefficients including a plurality of previously calculated values corresponding to a range of grayscale values of the input image data;

a correction amount determination device to determine a correction amount based on statistical information of grayscale values of pixels in the input image data; and

a correction device to correct the input image data by adding a product of the correction amount and the correction coefficients determined by the input image data to the input image data, the correction device including a device to generate correction coefficients corresponding to the combination portion based on the correction coefficients corresponding to the specific curve pattern portion, each of the specific curve pattern portions including a plurality of points that show a pattern of the specific curve pattern portion.

2. (Canceled)

3. (Original) The image processor according to Claim 1,

the combination portion including a portion symmetric with the specific curve pattern portion with respect to a horizontal axis or a vertical axis of the correction curve used as a reference axis.

4. (Original) The image processor according to Claim 1,
the correction points being two points that are symmetric with respect to the center of the grayscale range, and
the coefficient holding device holding correction coefficients that make absolute values of the correction amount at the two points equal and have opposite polarities.

5. (Original) The image processor according to Claim 1,
the correction points being two points that are a quarter of the lower limit of the grayscale range and a quarter of the upper limit of the grayscale range, and
the coefficient holding device holding correction coefficients that make the absolute values of the correction amount at the two points equal and have opposite polarities.

6. (Original) The image processor according to Claim 1,
the correction point being one of the two points that are symmetric with respect to the center of the grayscale range.

7. (Original) The image processor according to Claim 1,
the correction device performing luminance correction and color difference correction on the input image data using the same correction coefficients held by the coefficient holding device.

8. (Original) The image processor according to Claim 7,
the correction device simultaneously performs the luminance correction and the color difference correction by time-divisionally referring to the coefficient holding device.

9. (Currently Amended) An image processor that corrects input image data having a predetermined grayscale range, comprising:

a coefficient holding device to hold correction coefficients of a correction curve that correspond to the entire grayscale range or a portion of the grayscale range and include one or more correction points and a combination portion that is formed of a combination of a plurality of specific curve pattern portions, the one or more correction points being determined previously and independently of the input image data, and the coefficient holding device holding only the correction coefficients corresponding to one of the specific curve pattern portions in the combination-~~portion~~; portion, the held correction coefficients including a plurality of previously calculated values corresponding to a range of grayscale values of the input image data;

a correction amount determination device to determine a correction amount based on statistical information of grayscale values of pixels in the input image data;

a correction curve data generating device to generate and store correction curve data with respect to all grayscale values corresponding to the grayscale range with reference to the coefficient holding device by adding a product of the correction amount and the correction coefficient corresponding to each of the grayscale values to each of the grayscale values; and

a correction device to perform grayscale correction on the input image data with reference to the correction curve data, the correction device including a device to generate correction coefficients corresponding to the combination portion based on the correction coefficients corresponding to the specific curve pattern portion, each of the specific curve pattern portions including a plurality of points that show a pattern of the specific curve pattern portion.

10. (Original) The image processor according to Claim 9,

the correction points being two points that are symmetric with respect to the center of the grayscale range, and

the coefficient holding device holding correction coefficients that make absolute values of the correction amount at the two points equal and have opposite polarities.

11. (Original) The image processor according to Claim 9,

the correction points being two points that are a quarter of the lower limit of the grayscale range and a quarter of the upper limit of the grayscale range, and

the coefficient holding device holding correction coefficients that make the absolute values of the correction amount at the two points equal and have opposite polarities.

12. (Original) The image processor according to Claim 9,

the correction point being one of the two points that are symmetric with respect to the center of the grayscale range.

13. (Original) The image processor according to Claim 9,

the correction including chroma correction that corrects two color difference data of the input image data, and

the correction device performing correction on the two color difference data by time-divisionally referring to the same correction curve data.

14. (Currently Amended) An image processing method that corrects input image data having a predetermined grayscale range, comprising:

holding correction coefficients of a correction curve that correspond to the entire grayscale range or a portion of the grayscale range and include one or more correction points and a combination portion that is formed of a combination of a plurality of specific curve pattern portions, the one or more correction points being determined previously and independently of the input image data, and the holding the correction coefficients holding only the correction coefficients corresponding to one of the specific curve pattern portions in the combination-~~portion~~; portion, the held correction coefficients including a plurality of

previously calculated values corresponding to a range of grayscale values of the input image data;

determining a correction amount based on statistical information of grayscale values of pixels in the input image data; and

performing grayscale correction on the input image data by adding a product of the correction amount and the correction coefficients determined by the input image data to the input image data, the performing the grayscale correction including generating correction coefficients corresponding to the combination portion based on the correction coefficients corresponding to the specific curve pattern portion, each of the specific curve pattern portions including a plurality of points that show a pattern of the specific curve pattern portion.

15. (Currently Amended) An image processing method that corrects input image data having a predetermined grayscale range, comprising:

holding correction coefficients of a correction curve that correspond to the entire grayscale range or a portion of the grayscale range and include one or more correction points and a combination portion that is formed of a combination of a plurality of specific curve pattern portions, the one or more correction points being determined previously and independently of the input image data, and the holding the correction coefficients holding only the correction coefficients corresponding to one of the specific curve pattern portions in the combination-~~portion~~; portion, the held correction coefficients including a plurality of previously calculated values corresponding to a range of grayscale values of the input image data;

determining a correction amount based on statistical information of grayscale values in the input image data;

generating and storing correction curve data with respect to all grayscale values corresponding to the grayscale range by adding a product of the correction amount and

the correction coefficient corresponding to each of the grayscale values to each of the grayscale values; and

performing grayscale correction on the input image data with reference to the correction curve data, the performing the grayscale correction including generating correction coefficients corresponding to the combination portion based on the correction coefficients corresponding to the specific curve pattern portion, each of the specific curve pattern portions including a plurality of points that show a pattern of the specific curve pattern portion.

16. (Currently Amended) A computer-readable recording medium on which an image processing program is recorded, the image processing program correcting input image data having a predetermined grayscale range and being executable by a computer, the program comprising:

instructions to hold correction coefficients of a correction curve that correspond to the entire grayscale range or a portion of the grayscale range and include one or more correction points and a combination portion that is formed of a combination of a plurality of specific curve pattern portions, the one or more correction points being determined previously and independently of the input image data, and the instruction to hold the correction coefficients holding only the correction coefficients corresponding to one of the specific curve pattern portions in the combination ~~portion;~~ portion, the held correction coefficients including a plurality of previously calculated values corresponding to a range of grayscale values of the input image data;

instructions to determine a correction amount based on statistical information of grayscale values of pixels in the input image data; and

instructions to perform grayscale correction on the input image data by adding a product of the correction amount and the correction coefficients determined by the input image data to the input image data, the instructions to perform the grayscale correction

including instructions to generate correction coefficients corresponding to the combination portion based on the correction coefficients corresponding to the specific curve pattern portion, each of the specific curve pattern portions including a plurality of points that show a pattern of the specific curve pattern portion.

17. (Currently Amended) A computer-readable recording medium on which an image processing program is recorded, the image processing program correcting input image data having a predetermined grayscale range and being executable by a computer, the program comprising:

instructions to hold correction coefficients of a correction curve that corresponds to the entire grayscale range or a portion of the grayscale range and include one or more correction points and a combination portion that is formed of a combination of a plurality of specific curve pattern portions, the one or more correction points being determined previously and independently of the input image data, and the instructions to hold the correction coefficients holding only the correction coefficients corresponding to one of the specific curve pattern portions in the combination ~~portion;~~ portion, the held correction coefficients including a plurality of previously calculated values corresponding to a range of grayscale values of the input image data;

instructions to determine a correction amount based on statistical information of grayscale values of pixels in the input image data;

instructions to generate and store correction curve data with respect to all grayscale values corresponding to the grayscale range by adding a product of the correction amount and the correction coefficient corresponding to each of the grayscale values to each of the grayscale values; and

instructions to perform grayscale correction on the input image data with reference to the correction curve data, the instructions to perform the grayscale correction

including instructions to generate correction coefficients corresponding to the combination portion based on the correction coefficients corresponding to the specific curve pattern portion, each of the specific curve pattern portions including a plurality of points that show a pattern of the specific curve pattern portion.